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ABSTRACT

This paper begins with a literature review of research on syntactic maturity, defined as the developmental stages from one- and two-word utterances to the hierarchical structures of adult speech, and seeks to answer questions in the context of past and current research in this area. It attempts to study some of the ramifications of the movement toward outcome-based and standards-driven curricula when it is not uncommon for complete syntax to elude many second language learners. As there have been few studies dealing directly with techniques in sentence combining, reducing sentences to less than clauses, adverbial structures, clause embedding, and general syntactic shortcuts for intermediate Spanish language learners, this study seeks to determine the syntactic maturity of a sample of intermediate Spanish language learners and focuses on procedures to extend syntactic procedures to syntactic choices and analyze the resulting data from the procedures. The following hypotheses are presented: there is no significant difference between intermediate I and II Spanish students in their written production of relative pronouns, adjective and noun clauses, or adverbial clauses; nor is there a significant difference between II Spanish students in written production before and after instruction in syntactic shortcuts (nominalized infinitives, gerunds, and participles). It was found that students may benefit from rewriting exercises that collapse clauses into infinitives, participles, and gerunds. Reducing phrases to less than clauses may increase students' intermediate syntactic fluency. Sentence combining techniques may bridge the gap between intermediate and more advanced classes in composition. (Contains 23 references.) (KFT)

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SYNTACTIC MATURITY: THE COMPLEX SENTENCE IN INTERMEDIATE SPANISH

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SYNTACTIC MATURITY: THE COMPLEX SENTENCE IN INTERMEDIATE SPANISH

Syntax concerns the purposeful arrangements of words within a sentence or how words are combined together to form phrases or sentences (Kadler, 1970; Radford et al., 1999). Syntactic maturity may be defined as the developmental stages from one and two word utterances to the hierarchical structures of adult speech (Slobin, 1966; Hunt, 1967; Radford, 1990). Investigations conducted in the field of child language and developmental linguistics (Braine, 1963; Brown and Bellugi, 1964, 1971; Chomsky, 1995; Hunt, 1967, 1970; O'Donnel, Griffin and Norris, 1967) and L2 syntactic maturity (Cooper, 1972, 1976; Monroe, 1975; Thornhill, 1969) established the focus upon syntactic fluency or how words, phrases and sentences combine and the hierarchical order of sentences. Specific to L2 instruction, three early investigations emerged: Cooper, 1969; Monroe, 1975; and Thornhill, 1969. Thornhill (1969) studied the developmental stages of four Hispanic adults living in Tallahassee, Florida and who had studies English in Colombia. After attending sessions or interviews, subjects grew in proficiency in certain grammatical elements and embedding techniques. It must be noted that Thornhill used only oral proficiency as a dependent variable.

Cooper (1972, 1976) analyzed writing by groups or levels of university students in German and one group of German writers. This investigation was based on Hunt's (1967) suggestions:

(1) use T-units (a main clause plus any subordination) in measuring syntactic maturity;

(2) determine syntactic differences between groups at ever increasing levels of maturity.

Cooper (1976) collected 40 writing samples (10 per university group) and 10 writing samples from professional German journalists. Cooper was careful to collect situational writings from intermediate students and more complex writings from advanced students. The German

journalists submitted articles or editorials from Die Zeit. The results of the univariate analysis between groups and the multivariate analysis between individual groups indicated increments in clause length, subordination, T-unit length and sentence length; however coordination did not increase significantly across groups. Cooper (1976) confirmed Hunt's (1967) conclusions that coordination appeared early in syntactic maturity of L1 fluency and that L2 learners mirrored L1 developmental stages.

The second phase of Cooper (1976) explored sentence embedding: nominal, adverbial and coordinate structures. Nominal structures consisted of noun + adjective, noun + possessive, noun + relative clause, noun + prepositional phrase, noun + participle, noun + appositive, noun clause and gerund phrase. Adverbial structures consisted of clauses beginning with conjunctive adverbs of time, place, cause and condition; and coordinate structures employed adjectival and adverbial modifiers, nominals and/or predicates. Modal verb + infinitive, second-prong infinitives and end-field inifnitives were included in this phase of the study (German reduction of sentences to less than a clause). From the results of the univariate analysis (subject sample), Cooper concluded that means for dependent infinitives and adverbials increased across five levels; however, not a significant levels. On the other hand, nominals and coordinate structures increased at significant levels across four levels. Univariate analysis (totals) indicated that two years appear to be the minimum time to reach statistical significance and acquisition of most syntactic patterns. Furthermore, Cooper (1976) posited: (1) syntactic development in German students may reach comparable levels to L1 seeing that L2 syntactic growth accelerates toward fluency several times the speed of L1; and (2) increments in a repertoire of syntactic devices may not be due to habit formation, but due to an innate ability

to process and to internalize German syntax.

Monroe (1975) studied syntactic maturity in university French students (4 levels) and in native speakers. This five level investigation utilized the following variables: (1) mean words per clause; (2) mean clauses per T-unit; (3) mean words per T-unit; (4) mean T-units per sentence; (5) mean words per sentence; and (5) mean reductions to less than a clause. A monotonic trend appeared at the .05 level of significance across levels. This investigation emphasized the mature technique of reducing clauses to prepositional phrases, participles, simple prenominal or post-nominal adjectives, appositives and compounds. The pedagogical implications of this study suggested that rewriting and sentence combining techniques might prove effective in accelerating syntactic fluency in L2 students.

Statement of the Problem

The development of outcome-based and standards-driven curricula based upon ACTFL Guidelines continue to engender much debate. Foreign language textbooks seek to reconcile traditional grammar syllabi with functional-situational syllabi. Textbooks progress from simple grammatical topics and concrete words to complex topics and more abstract lexicon, from simple to complex sentences. Grammatical topics in the first-year syllabus are reviewed and expanded in the second-year syllabus, the status quo of university language courses (Tschirner, 1996). Complex syntax continues to elude many intermediate learners. Intermediate learners read simple, uncomplicated prose connected by basic clause connectors, and write about elementary needs, brief summaries, letters and personal histories. Syntactic constructions are straightforward; relative constructions and connectors remain somewhat unfamiliar

(CAL, 1995; James, 1985). The problem stems from the fact that linear progressions of levels using ACTFL Guidelines and Oral Proficiency Interviews (OPI) provide evidence of systematic growth in syntactic fluency (Halleck, 1995; Glisan and Foltz, 1998; Tscirner and Heilenman, 1998; Tschirner, 1996). In addition, studies in native Spanish discourse demonstrate that there is a preference for additive clauses, digressions, elaborations and a preponderance of coordinate rather than subordinate structures (Barry and Lazarte, 1995; Santana-Seda, 1975). Studies in foreign language development illustrate that L2 learner's ability to combine short, simple sentences into more complex sentences equal increasing levels of syntactic maturity (Cooper, 1972, 1976; Monroe, 1975; Thornhill, 1969). Furthermore, many intermediate Spanish textbooks provide explanations of the use of que, quien, cuyo, el que/ el cual; list adverbial conjunctions that require indicative or subjunctive moods; explicate noun, adjective and adverb clauses. To date, there have been few empirical studies directly dealing with techniques in sentence combining, reducing sentences to less than clauses, adverbial structures, clause embedding, and general syntactic shortcuts for intermediate Spanish students; thus this study seeks to determine, first of all, the syntactic maturity of an intermediate Spanish sample, and if there are increments in syntactic maturity, this investigation will focus upon procedures to extend syntactic choices and analyze the data resulting from the procedures. The hypotheses are:

Experiment I

H1: There is no significant difference between intermediate I and II Spanish students in their written production of relative pronouns (que, quien, cuyo, el que/el cual, etc).

H2: There is no significant difference between intermediate I and II Spanish students in their written production of adjective and noun clauses (que + subjunctive).

H3: There is no significant difference between intermediate I and II Spanish students in their written production of adverbial clasuses (porque, para que, aunque, cuando, etc).

Experiment II

H4: There is no significant difference between intermediate II Spanish students in written production before and after instruction in syntactic shortcuts (nominalized inifinitives, gerunds and participles).

EXPERIMENT I

Method

Subjects. The sample used in this study included students enrolled in first and second semester courses in university intermediate Spanish. Subjects were randomly selected from each class roll, using every 3rd member of the list. Each course contributed 10 subjects each. Subjects who participated in this study were informed by the investigator that normal course assignments and testing would continue with their instructor; however, during quizzes and examinations, certain questions and answers would form part of this study. Further, there would be no penalty for not participating in this investigation and access to data would be limited to persons directly involved in conducting the study.

Topics for Completion and Multiple Choice Items

1. Relative Pronouns
2. Present Subjunctive in Adjective and Noun Clauses
3. Adverbial Clauses

Results. The design of this study used three t-tests of independent samples with two

categorizing or independent levels (intermediate Spanish I and II).

H1: There is no significant difference between intermediate Spanish I and II in written production of relative pronouns.

Means for intermediate I and II were 64.5 and 77.0, respectively. The t-test of independent samples indicated a significant difference between group effects, $t(18) = 2.42$, critical value = 2.101, $p < .05$. The null hypothesis was rejected.

H2: There is no significant difference between intermediate Spanish I and II in written production of adjective and noun clauses.

The hypothesized parameter for this study was the difference between two means (intermediate Spanish I and II). Means for the two groups were 49.5 and 75.5, respectively. The t-test of independent samples indicated a significant difference between groups, $t(18) = 4.624$, critical value = 2.101, $p < .05$. The null hypothesis was rejected.

H3: There is no significant difference between intermediate Spanish I and II students in written production of adverbial clauses.

In order, means for group effects were 24.0 and 31.5. The t-test of independent samples indicated no significant difference between intermediate Spanish I and II, $t(18) = 1.11$, critical value = 2.101, $p < .05$. The null hypothesis was retained.

Discussion. Experiment I examined the written production of noun, adjective and adverb clauses of intermediate Spanish I and II students. Items representative of the topics (completion and multiple choice) were used in the analysis. The results indicated that both groups differed significantly in knowledge of relative pronouns, noun and adjective clauses; however, subjects did not differ in knowledge of adverb clauses. This study reiterated that syntactic growth did occur from intermediate Spanish I to II (relative pronouns, adjective and noun clauses). However, the small t-statistic (Hypothesis III) reflected little or no learning of adverb clauses from intermediate I to II.

The results of Experiment I are not surprising seeing that: (1) noun, adjective and adverb clauses are introduced briefly in many elementary Spanish courses and reviewed in intermediate classes; and (2) the complexity of the subjunctive/indicative dichotomy in adverb clauses may tax elementary Spanish students' memory and linguistic maturity. Basic concepts of relative pronouns, noun and adjective clauses appear to transfer into intermediate courses; however, the complexities of the adverb clause introduced by a conjunction indicating an anticipated event or an action that has not taken place at the time of the independent clause may tax both elementary and intermediate students. In addition, there are adverb conjunctions that require the subjunctive mood when the main clause is in the future tense and the indicative mood when the action is habitual or in a past tense. The metric of syntactic complexity exceeds student maturity and/or readiness. Coupled with the complexities of the adverb clause, the intermediate student must check lexical items, head, complement and specifier features (Chomsky, 1995). Adverb clauses may tax the intermediate student with too much information to process about complex structures that he/she has not mastered orally and can not transfer to written production.

EXPERIMENT II

Method

In Experiment II, the researcher studied:

H4: There is no significant difference between intermediate Spanish I in their written production before and after instruction in syntactic shortcuts (nominalized infinitives, gerunds and participles.

Research indicated that intermediate students were distinguished from advanced students in abilities to reduce sentences to less than clauses (Cooper, 1976; Hunt, 1967, 1970; Monroe,

1975; Radford, 1997). Monroe (1975) advised sentence combining and syntactic shortcuts for all students.

Subjects. Twenty subjects participated in this study; subjects acted as their own controls. Subjects were pretested (second day of course) to provide data for the control condition. Then subjects were tested after administering the experimental treatment (two weeks before the final examination). Subjects were informed of the research procedure as in Experiment I.

Materials and Procedures. Subjects received a packet of materials containing: (1) explanation and exercises on the use of the inifintive (el sustantivo verbal); (2) explanation and exercises on the participle or absolute construction (el adjetivo verbal); and (3) explanation and exercises on the gerund (el adverbio verbal o el gerundio). Subjects rehearsed syntactic shortcuts such as

Vistada Guadalajara, fuimos a Tequila.

Pronunciar un discurso ante el público es importante.

Siendo muy joven, fui a México.

Al cerrar la ventana, se encontró con un ladrón.

Twenty-five rewrite items formed the testing:

Pabló comió menos y adelgazó > Comiendo menos, Pablo adelgazó.

Cuando abrí la puerta, vi a Rosa > Al abrir la puerta, vi a Rosa.

Resolví el problema. Comencé el trabajo. > Resuelto el problema, comencé el trabajo.

Results. The design of Experiment II permitted a t-test of dependent samples. Means for the pretest and posttest were 4 and 15.1, respectively. The analysis indicated a significant group effect, $t(19) = 2.71$, SED = 4.09, $p < .05$. The observed value of the test statistic exceeded

the critical value, therefore, the null hypothesis was rejected.

Discussion. This investigation asked whether there was a significant difference between pre- and posttest samples of intermediante Spanish after instruction in syntactic shortcuts. The results of the present investigation appear to indicate that students may benefit from rewriting exercises that collapse clauses into infinitives, participles and gerunds. Reducing phrases to less than clauses may increase intermediate students' syntactic fluency. Furthermore, sentence combining techniques may bridge the gap between intermediate courses and more advanced classes in composition.

Conclusions and Recommendations

This investigation sought to determine the extend of syntactic maturity in intermediate Spanish students, that is, the written production of relative pronouns, adjective and noun clauses. In addition, this study was designed to teach syntactic shortcuts to a group of intermediate Spanish II students and to analyze the data resulting from the procedures. In Experiment I, the researcher used 10 subjects from intermediate Spanish I and II, respectively. The findings indicated that there was no significant difference in written production of relative pronouns, adjective and noun clauses; however, intermediate Spanish I and II groups differed significantly in their knowledge of adverb clauses. The results of Experiment I provided some evidence of syntactic growth from intermediate Spanish I to II;

however, there was evidence that such maturity did not extend to adverb clauses introduced by conjunctions.

In Experiment II, the researcher studied the written production of syntactic shortcuts in intermediate Spanish I and II students after instruction. Research indicated that the transition from intermediate to advanced syntactic maturity involved shortcuts (nominalized infinitives, gerunds and participles): Cooper, 1976; Hunt, 1967, 1970; Monroe, 1975; Radford, 1997. Using a pretest-posttest design, the researcher found that instruction in reducing sentences to less than clauses might improve writing and increase syntactic fluency.

In terms of limitations within this study, there were two factors that might negatively affect the generalizability of the investigation: sample size and instruments. Subjects were selected from existing courses and ever 3rd student formed the sample in Experiment I. Such procedures met some criteria of systematic sampling; however, the sample size was small (N = 10) for each group in Experiment I, and subjects (N = 20) in Experiment II (one randomly selected course).

Instruments in this study were teacher-made tests, and reliability and validity coefficients were not calculated. Item analysis procedures, reliability and validity coefficients from a standardized test of achievement might have enhanced generalizability of results.

In spite of these limitations, the data from both experiments revealed the following pedagogical implications.

1. Elementary Spanish introduces adverb clauses and intermediate courses attempt to refine this topic; nevertheless, students may fail to reach an acceptable level of mastery. It appears

that this topic may exceed student readiness and maturation. This topic may need extensive treatment in advanced courses.

2. Syntactic fluency must figure in the objectives of intermediate courses in Spanish. Analysis of T-units by instructors, sentence combining techniques and reducing sentences to less than clauses may enhance the intermediate curriculum. Such activities need not be restricted to 300-level courses in Spanish composition.

3. Spanish composition courses (300- and 400- level) should be sensitive to decomposing complicated and/or complex sentences. The relationship between syntax and semantics, syntactic operations (merger, movement and variation), parametric differences between English and Spanish and agrammatic errors should figure in advanced courses.

The researcher offers the following recommendations for further study.

1. There is a need for additional studies in which native speakers of Spanish demonstrate the relationship between syntactic maturity and developmental stages, that is, childhood to adulthood stages of syntactic maturity.

2. There is a need for studies of native speakers of Spanish who regularly edit news articles, technical papers and literary submissions, and their rewriting/editing techniques.

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